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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/593,314
Filing Date: April 17, 2007
Appellant(s): LU ET AL.

Landon E. Wiebusch, Reg. No. 65,145
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 02/15/2011 appealing from the Office action mailed 10/06/2010.

1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-19 are rejected and pending in the application.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

US 2004/0004955 A1	Lewis	01/2004
US 2002/0116669 A1	Jain	08/2002
US 7,315,510 B1	Owens et al.	01/2008

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis (US 2004/0004955 A1), in view of Jain (US 2002/0116669 A1) and Owens et al. (Owens) (US 7,315,510 B1).

4. With respect to the claim 1, Lewis reference teaches A method for binding a work label switching path (LSP) with a protection LSP, comprising:

a Path Switching Label Switching Router (PSL) transmitting a first message which comprises information to a Path Merging Label Switching Router (PML) to request for creating the LSP of the work LSP (*See paragraph 0007, lines 1-9 sending a first LSP setup request message comprising a first bi-directional indicator from the first routing device (Path Switching Label Switching Router (PSL)) to the second routing device (Path Merging Label Switching Router (PML) and* see *paragraph 0041, lines 1-7 generate (process) the one or messages necessary to create the return (protection)*

LSP)), and returning a second message which comprises the information (*See paragraph 0007, lines 9-17 sending a second LSP setup request message from the second routing device to the first routing device in response to the first bi-direction indicator*);

upon receiving the second message, the PSL router the work LSP with the LSP according to the information, and transmitting a notification message which comprises the information to the PML switched router (*See paragraph 0044, lines 8-14 transit router 108 returns an error notification to the LER*);

wherein the PSL and PML are label edge routers (*See paragraph 0003, lines 1-8 An MPLS Label Switched Path (LSP) is a uni-directional "tunnel" originating at one label edge router (LER),*).

Lewis fails to explicitly teach binding information to a Path Merging Label Switching Router (PML) to request for creating the protection LSP of the work LSP;

However, Jain reference teaches teach the PML router assigning a label for the protection LSP based on the first message (*See Jain, paragraph 0005 lines 1-10 The router (PML) then modifies (assign) the packet by exchanging the outgoing label for the prior label before forwarding the packet along this next hop and See paragraph 0083, lines 1-8 the protection LSPs allow data to be re-routed), the PML router the work LSP with the protection LSP according to the information in the notification message (See paragraph 0007, lines 1-13 A fault notification is required for each LSP*).

Therefore, it would have obvious to a person of ordinary skill in the art at the time of invention was made to have been combined the teachings of Jain to utilize the

protection LSP feature within the transmitting a first message which comprises information to a Path Merging Label Switching Router taught by Lewis. The motivation for this would have been to avoid failed network nodes as well as failed network links (*See Jain, paragraph 0083, lines 1-8 the protection LSPs allow data to be re-routed).*

Lewis and Jain fail to explicitly teach returning a second message which comprises the **binding** information; upon receiving the second message, the PSL router binding the work LSP with the protection LSP according to the **binding** information, and transmitting a notification message which comprises the **binding** information to the PML switched router; and the PML router assigning a label for the protection LSP based on the first message, the PML router binding the work LSP with the protection LSP according to the **binding** information in the notification message.

wherein the binding information comprises an identifier of the work LSP, a type of the LSP, and a protection mode,

However, Owens reference teaches maintaining a **binding** between outgoing labels specifying the working path and the protection/recovery path (*See Owens, column 11, lines 1-12 for maintaining a binding between outgoing labels (two LSPs) specifying the working path (work LSP) and the protection/recovery path (protection LSP). The latter enables the switchover to the recovery path upon the receipt of a protection switch trigger*) and exchanging label binding information (*See column 11, lines 12-31 with respect to the binding information they exchange*).

wherein the binding information comprises an identifier of the work LSP (*See Owens, column 11, lines 1-12 A Protection Domain Path is established by the*

identification of a protection switch (work LSP) or node and an end point switch or node in the MPLS network.)., a type of the LSP (*See Owens, column 6, lines 33-43 the format of a liveness message will depend upon the type of switching systems (LSP) used in the network).*, and a protection mode (*See Owens, column 11, lines 1-12 for maintaining a binding between outgoing labels (two LSPs) specifying the working path (work LSP) and the protection/recovery path (protection mode).*,

Therefore, it would have obvious to a person of ordinary skill in the art at the time of invention was made to have been combined the teachings of Owens to utilize the binding information they exchange feature within the transmitting a first message which comprises information to a Path Merging Label Switching Router taught by Lewis and Jain. The motivation for this would have been to enables the switchover to the recovery path upon the receipt of a protection switch trigger (*See Owen, column 11, lines 1-11*)

5. With respect to the claim 2, Lewis, Jain and Owens further teach comprising: before creating the work LSP, designating the PML router and the protection mode of the work LSPs at the PSL switched router; or, after creating the work LSP, designating the PML router and the protection mode of the work LSPs at the PSL switched router (*Jain, See paragraph 0085, lines 1-9 one or more protection LSPs is defined and See paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those resources being used by label-switched paths (LSPs) set up by that router*). The motivation that was utilized in claim 1, applies equally as well to claim 2.

6. With respect to the claim 3, Lewis reference teaches A method for binding a work label switching path (LSP) with a protection LSP, comprising:

in the process of creating the protection LSP (see *paragraph 0041, lines 1-7 generate (process) the one or messages necessary to create the return (protection) LSP*), a Path Switching Label Switching Router (PSL) transmitting a first message which comprises information to a Path Merging Label Switching Router (PML) to request for creating the LSP of the work LSP (*See paragraph 0007, lines 1-9 sending a first LSP setup request message comprising a first bi-directional indicator from the first routing device (Path Switching Label Switching Router (PSL)) to the second routing device (Path Merging Label Switching Router (PML) and* see *paragraph 0041, lines 1-7 generate (process) the one or messages necessary to create the return (protection) LSP)*), and returning a second message which comprises the information (*See paragraph 0007, lines 9-17 sending a second LSP setup request message from the second routing device to the first routing device in response to the first bi-direction indicator*);

upon receiving the second message, the PSL router the work LSP with the LSP according to the information, and transmitting a notification message which comprises the information to the PML switched router (*See paragraph 0044, lines 8-14 transit router 108 returns an error notification to the LER*);

Lewis fails to explicitly teach binding information to a Path Merging Label Switching Router (PML) to request for creating the protection LSP of the work LSP;

However, Jain reference teaches teach the PML router assigning a label for the protection LSP based on the first message (*See paragraph 0005 lines 1-10 The router (PML) then modifies (assign) the packet by exchanging the outgoing label for the prior*

label before forwarding the packet along this next hop and See paragraph 0083, lines 1-8 the protection LSPs allow data to be re-routed), the PML router the work LSP with the protection LSP according to the information in the notification message (See paragraph 0007, lines 1-13 A fault notification is required for each LSP).

Therefore, it would have obvious to a person of ordinary skill in the art at the time of invention was made to have been combined the teachings of Jain to utilize the protection LSP feature within the transmitting a first message which comprises information to a Path Merging Label Switching Router taught by Lewis. The motivation for this would have been to avoid failed network nodes as well as failed network links (*See Jain, paragraph 0083, lines 1-8 the protection LSPs allow data to be re-routed).*

Lewis and Jain fail to explicitly teach returning a second message which comprises the **binding** information; upon receiving the second message, the PSL router binding the work LSP with the protection LSP according to the **binding** information, and transmitting a notification message which comprises the **binding** information to the PML switched router; and the PML router assigning a label for the protection LSP based on the first message, the PML router **binding** the work LSP with the protection LSP according to the **binding** information in the notification message.

However, Owens reference teaches maintaining a **binding** between outgoing labels specifying the working path and the protection/recovery path (*See Owens, column 11, lines 1-12 for maintaining a binding between outgoing labels (two LSPs) specifying the working path (work LSP) and the protection/recovery path (protection LSP). The latter enables the switchover to the recovery path upon the receipt of a*

protection switch trigger) and exchanging label binding information (*See column 11, lines 12-31 with respect to the binding information they exchange*).

Therefore, it would have obvious to a person of ordinary skill in the art at the time of invention was made to have been combined the teachings of Owens to utilize the binding information they exchange feature within the transmitting a first message which comprises information to a Path Merging Label Switching Router taught by Lewis and Jain. The motivation for this would have been to enables the switchover to the recovery path upon the receipt of a protection switch trigger (*See Owen, column 11, lines 1-11*)

Lewis, Jain and Owens further teach if the protection mode for the work LSPs is 1+1 mode, the binding information comprises the work LSP identifier, LSP type, and the protection mode (Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See paragraph 0021, lines 14-20 a label-switched path that uses a resource identified by the corresponding point of failure); if the protection mode for the work LSPs is 1:1, the binding information comprises the work LSP identifier, LSP type, the protection mode and selection mode of the return LSP in the 1:1 protection mode (*Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See paragraph 0021, lines 14-20 a label-switched path that uses a resource identified by the corresponding point of failure*). The motivation for this would have been to provide a higher level of fault tolerance than other 1:n levels. (Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route)

7. With respect to the claim 4, Lewis, Jain and Owens further teach comprising, after the PML router receives the notification message, if it is determined that the protection is in the 1:1 mode and it is chosen to create the return LSP dynamically via signaling (*Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See paragraph 0050, lines 1-6 signal integrity verification*):

the PML router transmitting to the PSL router a third message of requesting for creating the return LSP, with the binding information included in the third message (*Jain, See paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those resources being used by label-switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8 The label used for a fault notification may be referred to as a "fault information label" (FIL).*);

the PSL router assigning a label for the return LSP according to the third message, and returning a fourth message which comprises the binding information (*Jain, See paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those resources being used by label-switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8 The label used for a fault notification may be referred to as a "fault information label" (FIL).);*

the PML router binding the work LSP and the return LSP based on the binding information of the fourth message, and transmitting to the PSL router a notification message which comprises the binding information (Jain, See paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those resources being used by label-

switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8 The notification may include the SRLG that corresponds to the particular failure that occurred.);

the PSL router binding the work LSP and the return LSP based on the binding information of the notification message (*Jain, See paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those resources being used by label-switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8 The notification may include the SRLG that corresponds to the particular failure that occurred.*). The motivation that was utilized in claim 3, applies equally as well to claim 4.

8. With respect to the claim 5, Lewis further teach wherein, if Resource Reservation Protocol (RSVP) is used to create the LSP, the first message and the third message are path messages in the RSVP, and the second message and the fourth message are Resv messages in the RSVP, and the notification message is Reservation Configuration (ResvConf) message in the RSVP (*See paragraph 0008, lines 1-9 the first and second LSP setup request messages are first and second RSVP PATH messages*).

9. With respect to the claim 6, Lewis further teach comprising: extending a binding object in the RSVP, and extending the Path message, Resv message and ResvConf message to comprise information of the binding object to implement the binding of the work LSP and the protection LSP (*See paragraph 0008, lines 1-9 the first and second LSP setup request messages are first and second RSVP PATH messages*).

10. With respect to the claim 7, Lewis further teach wherein, if label distribution protocol (LDP) or constraint route-label distribution protocol (CR-LDP) is used to create

the LSP, the first message and the third message are the Label Request messages of the LDP or CR-LDP, and the second message and the fourth message are the Label mapping messages of the LDP or the CR-LDP, and the notification message is a notification message in the LDP or the CR- LDP (*See paragraph 0065, lines 1-12 LDP, for example, may be used*).

11. With respect to the claim 8, Lewis, Jain and Owens further teach comprising: extending the binding Type Length Value (TLV) in the LDP or the CR-LDP, and adding the binding TLV to the Label Request message, Label mapping message and notification message to implement the binding of the work LSP and the protection LSP (*Jain, See paragraph 0097, lines 1-24 a new type-length value (TLV) may be defined*). The motivation for this would have been to a possible fault to be avoided by the protection LSP. (*Jain, See paragraph 0097, lines 1-24 a new type-length value (TLV) may be define*d)

12. With respect to the claim 9, Lewis, Jain and Owens further teach if the protection mode for the work LSPs is 1+1 mode, the binding information comprises the work LSP identifier, LSP type, and the protection mode (Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See paragraph 0021, lines 14-20 a label-switched path that uses a resource identified by the corresponding point of failure); if the protection mode for the work LSPs is 1:1, the binding information comprises the work LSP identifier, LSP type, the protection mode and selection mode of the return LSP in the 1:1 protection mode (*Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and*

See paragraph 0021, lines 14-20 a label-switched path that uses a resource identified by the corresponding point of failure). The motivation that was utilized in claim 3, applies equally as well to claim 9.

13. With respect to the claim 10, Lewis, Jain and Owens further teach after the PML router receives the notification message, if it is determined that the protection is in the 1:1 mode and it is chosen to create the return LSP dynamically via signaling, further comprising (*Jain, See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1, ring, or fast re-route and See paragraph 0050, lines 1-6 signal integrity verification*):

the PML router transmitting to the PSL router a third message of requesting for creating the return LSP, with the binding information included in the third message (*Jain, See paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those resources being used by label-switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8 The label used for a fault notification may be referred to as a "fault information label" (FIL).*);

the PSL router assigning a label for the return LSP according to the third message, and returning a fourth message which comprises the binding information (Jain, See paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those resources being used by label-switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8 The label used for a fault notification may be referred to as a "fault information label" (FIL).);

the PML router binding the work LSP and the return LSP based on the binding

information of the fourth message, and transmitting to the PSL router a notification message which comprises the binding information (*Jain, See paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those resources being used by label-switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8 The notification may include the SRLG that corresponds to the particular failure that occurred.*);

the PSL router binding the work LSP and the return LSP based on the binding information of the notification message (*Jain, See paragraph 0013, lines 1-7 the particular router is using to send data, e.g., those resources being used by label-switched paths (LSPs) set up by that router and See paragraph 0016, lines 1-8 The notification may include the SRLG that corresponds to the particular failure that occurred.*). The motivation that was utilized in claim 3, applies equally as well to claim 10.

14. With respect to the claim 11, Lewis further teach wherein, if Resource Reservation Protocol (RSVP) is used to create the LSP, the first message and the third message are path messages in the RSVP, and the second message and the fourth message are Resv messages in the RSVP, and the notification message is Reservation Configuration (ResvConf) message in the RSVP (*See paragraph 0008, lines 1-9 the first and second LSP setup request messages are first and second RSVP PATH messages*).

15. With respect to the claim 12, Lewis further teach comprising: extending a binding object in the RSVP, and extending the Path message, Resv message and ResvConf message to comprise information of the binding object to implement the

binding of the work LSP and the protection LSP (*See paragraph 0008, lines 1-9 the first and second LSP setup request messages are first and second RSVP PATH messages*).

16. With respect to the claim 13, Lewis further teach wherein, if the LDP or the CR-LDP is used to create the LSP, the first message and the third message are the Label Request messages of the LDP or CR-LDP, and the second message and the fourth message are the Label mapping messages of the LDP or the CR-LDP, and the notification message is a notification message in the LDP or the CR- LDP (*See paragraph 0065, lines 1-12 LDP, for example, may be used).*

17. With respect to the claim 14, Lewis, Jain and Owens further teach comprising: extending the binding Type Length Value (TLV) in the LDP or the CR-LDP, and adding the binding TLV to the Label Request message, Label mapping message and notification message to implement the binding of the work LSP and the protection LSP (*Jain, See paragraph 0097, lines 1-24 a new type-length value (TLV) may be defined*). The motivation that was utilized in claim 8, applies equally as well to claim 14.

18. With respect to the claim 15, Lewis, Jain and Owens further teach wherein data is transmitted via the work LSP and protection LSP simultaneously from PSL to PML, the PML receives the data from the work LSP in normal conditions, if there is a failure in the work LSP, the PML receives data from the protection LSP (Owens*, See column 14, lines 10-12 Upon the establishment of the working and protection paths and See column 3, lines 44-55 This path is known in the art as the working or primary path through the network and See column 4, lines 55-65 In the event of a pathway failure causing downstream data to be lost at a downstream switch, such as by either a switch*

failure or a link failure,). The motivation for this would have been to re-route data traffic through the protection path so as to have the data for the endpoint switch no. 7 delivered as quickly as possible to the endpoint at switch no. 7(*See column 4, lines 55-65 In*).

19. With respect to the claim 16, Lewis, Jain and Owens further teach wherein the binding occurs during creation of the protection LSP (*See Owens, column 11, lines 1-12 for maintaining a binding between outgoing labels specifying the working path and the protection/recovery path (protection LSP)*.

20. With respect to the claim 17, Lewis, Jain and Owens further teach wherein at least one node in the protection LSP is not part of the work LSP (*See Owens, column 4, lines 17-25 A protection path for the portion of the working path that runs through switches 2, 3, 4 and 6 is the path designated by links)*

21. With respect to the claim 18, Lewis, Jain and Owens further teach wherein data is transmitted via the work LSP and protection LSP simultaneously from PSL to PML, the PML receives the data from the work LSP in normal conditions, if there is a failure in the work LSP, the PML receives data from the protection LSP (Owens*, See column 14, lines 10-12 Upon the establishment of the working and protection paths and See column 3, lines 44-55 This path is known in the art as the working or primary path through the network and See column 4, lines 55-65 In the event of a pathway failure causing downstream data to be lost at a downstream switch, such as by either a switch failure or a link failure,*). The motivation for this would have been to re-route data traffic through the protection path so as to have the data for the endpoint switch no. 7

delivered as quickly as possible to the endpoint at switch no. 7(*See Owen, column 4, lines 55-65*).

22. With respect to the claim 19, Lewis, Jain and Owens further teach if the protection mode for the work LSPs is 1:1, the binding information comprises the work LSP identifier (*See Owens, column 11, lines 1-12 A Protection Domain Path is established by the identification of a protection switch (work LSP) or node and an end point switch or node in the MPLS network.)*, LSP type (*See Owens, column 6, lines 33-43 the format of a liveness message will depend upon the type of switching systems (LSP) used in the network)*, the protection mode (*See Owens, column 11, lines 1-12 for maintaining a binding between outgoing labels (two LSPs) specifying the working path (work LSP) and the protection/recovery path (protection mode)* and selection mode of the return LSP in the 1:1 protection mode, and wherein the PSL and PML me label edge routers (*See Lewis, paragraph 0003, lines 1-8 An MPLS Label Switched Path (LSP) is a uni-directional "tunnel" originating at one label edge router (LER),*).

(10) Response to Argument

The Appellant argued in substance that:

Point A. Appellant argues on page 7 that A. To render obvious claims 4, 5, 8, 13, 14, 21, and 28, the cited prior art must disclose all of the elements of claims 4, 5, 8, 13, 14, 21, and 28. Appellant further argues that the combination of Lewis, Jain, and Owens does not contain all of the elements of independent claims 1 and 3, and therefore fails to render obvious claims 1-19.

As to Point A, the examiner would like to direct Appellant's attention to that this application contains claims 1-19 pending and there are no claims 21 and 28 pending in this application. Regarding Appellant's argument that the combination of Lewis, Jain, and Owens does not contain all of the elements of independent claims 1 and 3, and therefore fails to render obvious claims 1-19. The examiner would like to state that the combination of Lewis, Jain, and Owens does contain all of the elements of independent claims 1 and 3, and therefore does render obvious claims 1-19.

Point B. Appellant argues on page 8 that B. The combination of Lewis, .lain, and Owens fails to render obvious claims 1-19 because the combination of Lewis, Jain, and Owens fails to disclose that the PML router assigns a label for the protection LSP based on a message requesting creation of the protection LSP for the work LSP.

As to Point B, the examiner respectfully disagrees. The examiner would like to state that Owens does disclose that the PML router assigns a label for the protection LSP based on a message requesting creation of the protection LSP for the work LSP

*(See Column 1, lines 40-46, MPLS is identifying and marking IP packets with labels and forwarding them to a modified switch or router, which then uses the labels to switch the packets through the network. The labels are created and assigned to IP packets and see Column 4, lines 32-67, anywhere along a primary or working path, a protection switch element (PSL), such as switch no. 1 (identified by reference numeral 102) can re-route data traffic through the protection path …The ability to re-route data to a protection path is made considerably more valuable if the decision to switch over to a protection path is based upon an affirmative notice (*request*) that a switch over is needed.*). The examiner would like to further state that a protection switch element (PSL) is protection LSP and is created by an affirmative notice *(*request).

Point C. Appellant argues on page 12 that C. The combination of Lewis, Jain, and Owens fails to render obvious claims 1-19 because the combination of Lewis, Jain, and Owens fails to disclose that a first message from the PSL to the PML, a second message from the PML to the PSL, and a notification message transmitted by the PSL all comprise an identifier of the work LSP.

As to Point C, the examiner respectfully disagrees. The examiner would like to state that Lewis does disclose that a first message from the PSL to the PML, a second message from the PML to the PSL, and a notification message transmitted by the PSL all comprise an identifier of the work LSP. (*See paragraph 0007, lines 1-9 sending a first LSP setup request message comprising a first bi-directional indicator from the first routing device (*Path Switching Label Switching Router (PSL*)) to the second routing device (*Path Merging Label Switching Router (PML*) and See paragraph 0007, lines 9-*

17, sending a second LSP setup request message from the second routing device to the first routing device in response to the first bi-direction indicator and See paragraph 0044, lines 8-14 transit router 108 returns an error notification to the LER) *and See paragraph 0009, lines 1-15, The first LSP setup request message preferably includes a first bi-direction indicator that uniquely identifies the LSP (*work*) and specifies the resource requirements of the return LSP).* The examiner would like to further state that first routing device is a PSL, the second routing device is PML and the LSP is work LSP.

Point D. Appellant argues on page 18 that D. The combination of Lewis, Jain, and Owens fails to render obvious claims 1-19 because the combination of Lewis, Jain, and Owens fails to disclose that a first message from the PSL to the PML, a second message from the PML to the PSL, and a notification message transmitted by the PSL all comprise the type of LSP.

As to Point D, the examiner respectfully disagrees. The examiner would like to state that Lewis does disclose that a first message from the PSL to the PML, a second message from the PML to the PSL, and a notification message transmitted by the PSL. (*See paragraph 0007, lines 1-9 sending a first LSP setup request message comprising a first bi-directional indicator from the first routing device (*Path Switching Label Switching Router (PSL*)) to the second routing device (*Path Merging Label Switching Router (PML*) and See paragraph 0007, lines 9-17, sending a second LSP setup request message from the second routing device to the first routing device in response to the first bi-direction indicator and See paragraph 0044, lines 8-14 transit router 108*

returns an error notification to the LER)*).* The examiner would like to further state that first routing device is a PSL, the second routing device is PML. The examiner would like to further state that Owens teaches the type of LSP *(See Column 9, lines 40-52, treat each label switched path (LSP) independently, and require signaling between a protection switch element* (type*) and a destination switch* (type) *individually for each LSP).* The examiner would like to further state that there are two types of LSPs. One is protection switch LSP and the other is destination switch LSP.

Point E. Appellant argues on page 22 that E. The combination of Lewis, Jain, and Owens fails to render obvious claims 1-19 because the combination of Lewis, Jain, and Owens fails to disclose that a first message from the PSL to the PML, a second message from the PML to the PSL, and a notification message transmitted by the PSL all comprise the protection mode.

As to Point E, the examiner respectfully disagrees. The examiner would like to state that Lewis does disclose that a first message from the PSL to the PML, a second message from the PML to the PSL, and a notification message transmitted by the PSL. (*See paragraph 0007, lines 1-9 sending a first LSP setup request message comprising a first bi-directional indicator from the first routing device (*Path Switching Label Switching Router (PSL*)) to the second routing device (*Path Merging Label Switching Router (PML*) and See paragraph 0007, lines 9-17, sending a second LSP setup request message from the second routing device to the first routing device in response to the first bi-direction indicator and See paragraph 0044, lines 8-14 transit router 108 returns an error notification to the LER*)*).* The examiner would like to further state that

first routing device is a PSL, the second routing device is PML. The examiner would like to further state that Jain teaches the protection mode. (*See paragraph 0106, lines 1-15 the protection provided may be 1:1, 1:n, 1+1 (*mode*), ring, or fast re-route*)

Point F. Appellant argues on page 26 that F. The combination of Lewis, Jain, and Owens fails to render obvious claims 2 and 9-14 because the combination of Lewis, Join, and Owens fails to disclose designating the PML router and the protection mode of the work LSPs at the PSL switched router.

As to Point F, the examiner respectfully disagrees. The examiner would like to state that Jain does disclose designating the PML router and the protection mode of the work LSPs at the PSL switched router (*See paragraph 0013, lines 1-8, each router may store only the SRLGs that correspond to resources within the network that the particular (*designating*) router (*PML*) is using to send data, e.g., those resources being used by label-switched paths (LSPs) set up by that router and See paragraph 0106, lines 1-15, the protection provided may be 1:1, 1:n, 1+1 (*mode*), ring, or fast re-route*).

Point G. Appellant argues on page 28 that G. The combination of Lewis, Jain, and Owens fails to render obvious claims 10-14 because Jain fails to disclose that the steps in claim 10 are performed after the PML router receives the notification message.

As to Point G, the examiner respectfully disagrees. The examiner would like to state that Jain does disclose that the steps in claim 10 are performed after the PML router receives the notification message. (*See paragraph 0015, lines 1-7, When the neighboring routers receive the notification, they each take notice of the failure. In*

addition, the neighboring routers may propagate the notification to other nodes in the network).

Point H. Appellant argues on page 29 that H. The combination of Lewis, Jain, and Owens fails to render obvious claims 10- 14 because the combination of Lewis, Jain, and Owens fails to disclose that the third message, the fourth message, and the notification message comprise binding information.

As to Point H, the examiner respectfully disagrees. The examiner would like to state that Owens does disclose that the third message, the fourth message, and the notification message comprise binding information (*see column 5, lines 25-34, a notification message to a protection switch element and See column 11, lines 1-31 Switch 2 in turn associates messages (*the third message, the fourth message*) labeled L.sub.12 as bound for switch 3 and re-labels them …with respect to the binding information they exchange*)

Point I. Appellant argues on page 31 that I. The combination of Lewis, Jain, and Owens fails to render obvious claims 10- 14 because the combination of Lewis, Jain, and Owens fails to disclose that the PSL router assigns a label for the return LSP.

As to Point I, the examiner respectfully disagrees. The examiner would like to state that Owens does disclose that the PSL router assigns a label for the return LSP *(See Column 1, lines 40-46, MPLS is identifying and marking IP packets with labels and forwarding them to a modified switch or router (*PSL*), which then uses the labels to switch the packets through the network. The labels are created and assigned to IP packets).*

Point J. Appellant argues on page 32 that J. The combination of Lewis, Jain, and Owens fails to render obvious claims 10- 14 because the combination of Lewis, Join, and Owens fails to disclose that both the PSL router and PML router bind the work LSP and the return LSP based on the binding information.

As to Point J, the examiner respectfully disagrees. The examiner would like to state that Owens does disclose that both the PSL router and PML router bind the work LSP and the return LSP based on the binding information. (*See column 11, lines 1-31 the identification of a protection switch (*PSL router*) or node and an end point switch (*PML router*) or node in the MPLS network. The protection switch element ("PSL") initiates the setup of the working LSP and elements and the recovery LSP and elements … and for maintaining a binding between outgoing labels specifying the working path and the protection/recovery path….with respect to the binding information they exchange*)

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Farrukh Hussain/

Examiner, Art Unit 2444

/William C. Vaughn, Jr./
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Conferees:

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